

Himalayan Balsam



Himalayan balsam *Impatiens glandulifera* is a nuisance and it is getting everywhere. It is considered to be the tallest annual in the UK at the moment, reaching heights of two to three metres. One problem is the lack of cover left on the riverbank in the autumn and winter months which can lead to soil erosion and more unwanted silt in the river. Also, because its flowers produce so much nectar, many of our insects are attracted to it preferentially. This is an issue as our native plants either may not get pollinated or may self-pollinate, if they can, potentially reducing both individual plant numbers and their genetic diversity.



Himalayan balsam in the Otter catchment – photo taken 13th October 2011

As an annual, Himalayan balsam only lasts long enough to flower and disperse its several hundred seeds, which it does explosively in late summer and autumn when its ripe seed pods are disturbed. The seeds are then carried in flood waters and come to rest wherever they drop out of the flood flow. This is often on a newly formed sand, silt or gravel bar in the river and here they can exploit the high nutrient levels and pioneer the new site. Once the winter is over, the synchronous germination of its seeds at a site can result in large stands of the plant which contribute to its success in suppressing native species. But seed germination can be from February through to May depending on the winter and the local microclimate.



Himalayan balsam seedlings by the River Otter – photo 2nd April 2008

However, once growing at the side of the river, the balsam's seed spread can allow it to colonise higher up the bank as well as to contribute more seeds to the water. In subsequent years, once a stand of balsam is established on the river bank, the first frosts and floods of the autumn ensure that there is no cover left on the river bank and little root system to hold the soil in place. Consequently the riverbanks that have been dominated by balsam are more prone to erosion. Soil re-deposited as silt then cloaks the gravels that fish need clear for successful spawning. Also, more silt in the river means less space for flood water and so the river is more likely to break out of its normal channel to cause flooding. Many of the balsam plants themselves are also taking up space in the watercourse, increasing the flood risk and their eventual breakdown in the water will use up oxygen from the water and make more nutrients available in the river.



Himalayan balsam with flowers and seed pods - photo 8th July 2005'

- **Germination** February to May
- **Flowering** June to November
- **Flowers** Pink to mauve but can also be white
- **In shade** Flowering delayed 2-3 weeks
- **Seeds** are released 12-14 weeks after flowering
- **Stem** a light shade of green early on tending to red on joints
- **Leaves** elliptical (lance-shaped) up to 15 cms a light shade of green but reddish tinges can sometimes be seen in the leaf mid-rib and veins and in the finely serrated leaf edges
- **Plant Height** 2-3 metres usually but plants of only 20 cms can flower and seed successfully as can taller plants that get knocked over by flooding.



Himalayan Balsam Management



Himalayan balsam is an annual and so can only reproduce from last year's seed (or perhaps two-year old seed). There is not thought to be a persistent seed bank for this species and so removing the plant before it sets seed will be an effective means of control, potentially within three years. This work will help many farmers to meet their cross compliance obligations under the Single Payment Scheme.

Within the catchments of the Rivers Axe and Otter the intention is to start controlling Himalayan Balsam on several sub catchments at the same time. Given the scale of these operations, the use of chemical control in and adjacent to the watercourses is not preferable as it is considered too indiscriminate. It may also cause water quality problems if it reaches a watercourse in sufficient quantity. Consequently, its use for controlling the balsam on riverbanks is unlikely to be sanctioned by the Environment Agency. [Away from watercourses, Glyphosate could be used on large stands of balsam at an application rate of only 2 litres per hectare in 200 litres of water. For this to be effective it needs to be applied whilst the plant is in flower but before it has seeded.]*

No species-specific insect control from the plant's native range has yet been identified so the only **biological control** available is **grazing** with stock animals. Cattle find Himalayan balsam quite palatable and will graze it down and prevent re-growth. In many places in these catchments, the livestock are preventing even greater encroachment of the balsam. However, the plant can also establish in places inaccessible to stock on unfenced sections of the river and obviously it can also thrive on fenced sections between the fence and the river and these will need to be managed.



Grazed and ungrazed riverside field by the River Axe

How

The remaining options for the non-chemical control of the species are **manual**, either hand-pulling the whole plant or cutting the stems with a hand implement or **mechanical**, for example, using a strimmer. It is recognised that the scale of the problem is such that many Farmers and Landowners will need help, at least to start with for two or three years, and then if a control campaign is proving effective, it may be a more realistic proposition to expect them to keep on top of it after that.

Pulling up the Himalayan balsam stems carefully by hand ensures that the whole plant is removed and that any remaining part should not re-grow. If the stem breaks when it is pulled, every effort should be made to reach and remove the root and any remaining section of stem. The main advantage of this approach is that it is selective and so other non-target plants can be retained intact. Once removed, the balsam stem should be crushed at its base and then left draped over a branch or a bramble to desiccate.

If there is a significant stand of balsam it may not be possible to hang up all of the stems to dry out and these should then be heaped up on the ground but out of the flood channel. There may be some survivors on such a pile but these heaps can be checked on another visit to ensure that no flowers survive to set seed. If the stand of balsam is beyond the means of an individual or group to tackle, a strimmer can be used to clear that section. The strimmer operator should be using the proper protective clothing and must be made aware though of the need to cut every last stem below the lowest joint as otherwise plants may re-grow and provide a seed source. In these catchments with such stony substrates, often of angular chert, the requirement to cut low enough to get below the lowest node precludes the use of a hard bladed brushcutter which may send stone chips flying!



Himalayan balsam seedling - picture taken 31st March 2008



Himalayan balsam flowers and seed pods - picture taken 15th September 2010

When

- Look for seedlings from **March to May** to gauge the potential problem on your stream or riverbank.
- Control the Himalayan balsam is when it begins to flower in **mid to late June**.
- Second and Third repeat visits at the end of **July** and again at the end of **August** should not prove such an Olympian task if you cleared all the balsam in June.
- The second and third checks will help to ensure that no late seedlings come through and that any plants broken on a previous visit are not able to grow on to flower and seed.
- Start at the upstream end of your ownership and work down.
- Encourage your neighbours, particularly above you, to control the balsam.
- Unless everyone either helps to clear it or allows others on their land to clear it, there will always be some left upstream that can re-invade your land.
- If the first control visit is left any later than June or July, there will not be enough time to complete it all and you risk coming on plants that have flowered early and will disperse their seed when disturbed.
- Start early to allow for seasonal eventualities such as bad weather that may make it impractical or unsafe to encourage volunteers or paid staff on to the riverbanks.
- Starting in June or early July makes the balsam much easier to pull up before it has developed extensive roots and you are not then trying to lift a 'dinner plate' sized root system out of the ground.
- Starting early will greatly improve the chances of successful eradication on your stretch and hence on the catchment as a whole.

* FERA (2009) A report on Himalayan balsam control in the Wye Valley Area of Outstanding Natural Beauty (AONB)

<https://secure.fera.defra.gov.uk/.../downloadDocument.cfm?id=62>

To find out more about helping, or being helped, to clear Himalayan balsam contact:

FWAG South West - 01823 355 427 for the River Otter catchment

Natural England - 07554 439 207 for the River Axe/River Yarty catchment

